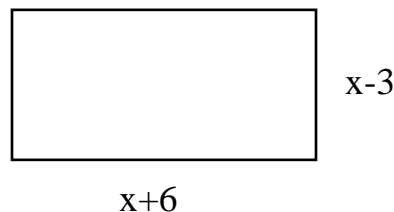


PRACTICE TEST 5 – CHAPTERS 7, 10, 11, 12

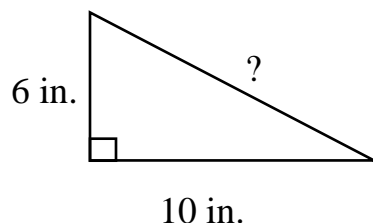
Beginning and Intermediate Algebra by Messersmith and Feldman, 4th edition

Solve the radical equations.

1. $\sqrt{y+5} - 6 = 0$
2. $\sqrt{4m+5} + 9 = 4$
3. $k + 2 = \sqrt{6k+19}$
4. $n + 4 = 5\sqrt{n}$
5. Simplify: $\sqrt{-90}$
6. Perform the indicated operation: $(3 + 6i) + (10 + 8i)$
7. Divide and write the result in the form $a + bi$: $\frac{6}{2 + 5i}$
8. Multiply and simplify: $-2i(2 + 11i)$
9. Multiply and simplify: $(10 + 8i)(-10 + 9i)$
10. An ad in a magazine is in the shape of a rectangle and occupies 63 square inches.
The length is 2 inches longer than the width. Find the dimensions of the ad.
11. The product of two consecutive integers is 19 more than their sum. Find the integers.
12. The product of two consecutive integers is 25 less than five times their sum. Find the integers.
13. The rectangle shown below has an area of 36 square centimeters. Find the length and width of the rectangle.



14. Find the distance between $(-10, -7)$ and $(2, 2)$.
15. Find the distance between $(0, -7)$ and $(-3, -3)$.
16. The width of a rectangle is 4 cm, and its diagonal is $2\sqrt{13}$ cm long. What is the length of the rectangle?
17. Find the length of the third side of the triangle. Write the answer as a simplified radical if necessary.



Solve the following equations using the quadratic formula.

18. $x^2 - x - 6 = 0$

19. $6x^2 - 3x - 9 = 0$

20. $28b + 6 = 48b^2$

21. $6y + 3 = -4y^2$

22. $x^2 - 10x + 26 = 0$

23. $x^2 + 2x = 2$

24. $2t^2 + 1 = 6t$

Sketch the graph of $f(x) = x^2$, then graph $g(x)$ on the same axes by shifting the graph of $f(x)$.

25. $g(x) = x^2 + 4$

26. $g(x) = x^2 - 3$

Graph each function using the vertex formula. Include the intercepts. Determine the domain and range.

27. $f(x) = -x^2 - 2x + 3$

28. $f(x) = x^2 - 2x + 5$

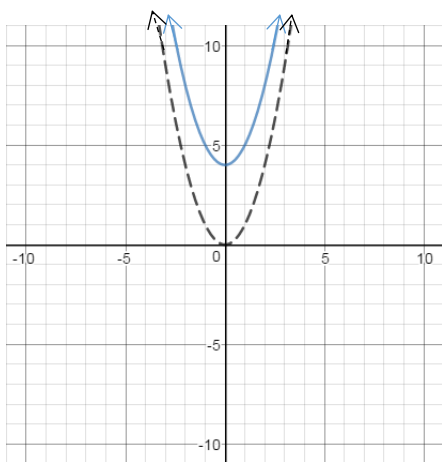
29. $f(x) = x^2 + 4x + 3$

30. $f(x) = x^2 + 4x + 1$

Practice Test 5 Chapters 7, 10, 11, 12 Answers

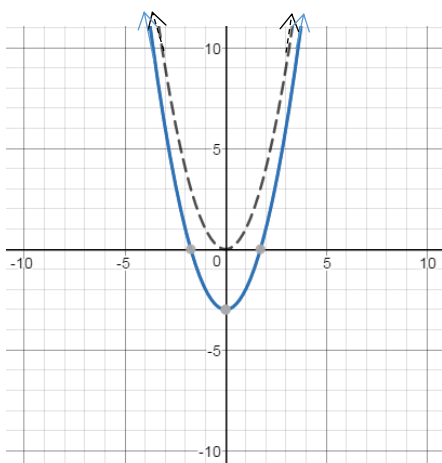
1. $y = 31$
2. No Solution
3. $k = 5$
4. $n = 1, n = 16$
5. $3i\sqrt{10}$
6. $13 + 14i$
7. $\frac{12}{29} - \frac{30}{29}i$
8. $22 - 4i$
9. $-172 + 10i$
10. The width is 7 inches and the length is 9 inches.
11. The consecutive integers are either 5 and 6 or -4 and -3 .
12. The consecutive integers are either 4 and 5 or 5 and 6.
13. The width is 3 centimeters and the length is 12 centimeters.
14. 15
15. 5
16. 6 cm
17. $2\sqrt{34}$
18. $\{-2, 3\}$
19. $\left\{-1, \frac{3}{2}\right\}$
20. $\left\{-\frac{1}{6}, \frac{3}{4}\right\}$
21. $\left\{-\frac{3}{4} - \frac{i\sqrt{3}}{4}, -\frac{3}{4} + \frac{i\sqrt{3}}{4}\right\}$
22. $\{5 - i, 5 + i\}$
23. $\{-1 - \sqrt{3}, -1 + \sqrt{3}\}$
24. $\left\{\frac{3 - \sqrt{7}}{2}, \frac{3 + \sqrt{7}}{2}\right\}$

25.



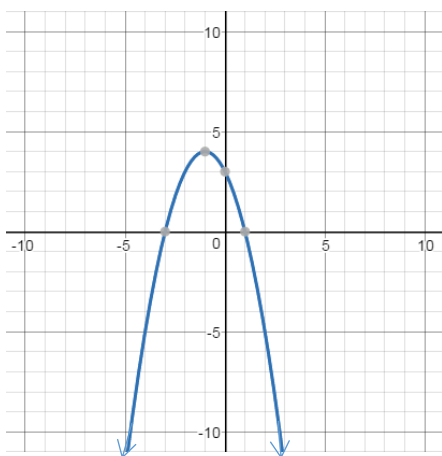
$f(x): \text{-----}$
 $g(x): \text{—————}$

26.



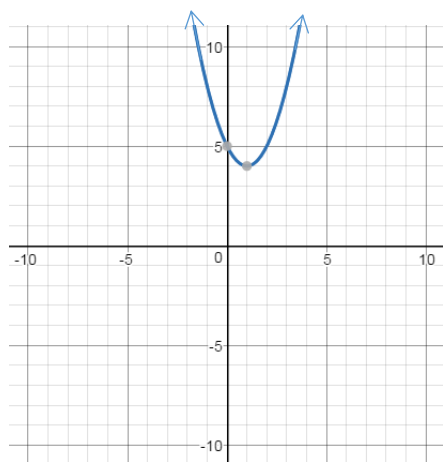
$f(x): \text{-----}$
 $g(x): \text{—————}$

27.



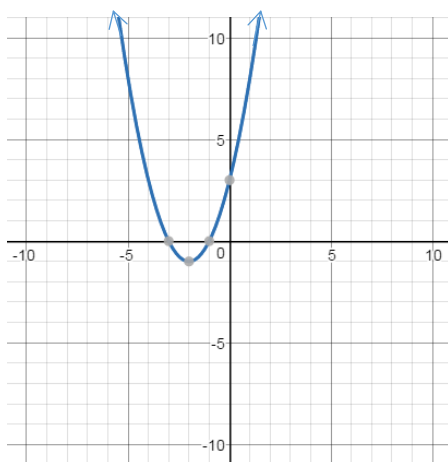
Vertex: $(-1, 4)$
x-intercepts: $(-3, 0), (1, 0)$
y-intercept: $(0, 3)$
Domain: $(-\infty, \infty)$
Range: $(-\infty, 4]$

28.



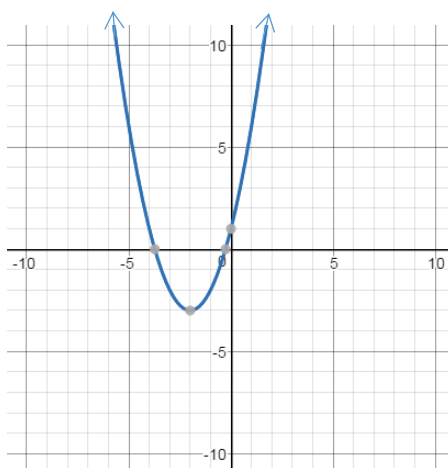
Vertex: $(1, 4)$
x-intercepts: none
y-intercept: $(0, 5)$
Domain: $(-\infty, \infty)$
Range: $[4, \infty)$

29.



Vertex: $(-2, -1)$
x-intercepts: $(-3, 0), (-1, 0)$
y-intercept: $(0, 3)$
Domain: $(-\infty, \infty)$
Range: $[-1, \infty)$

30.



Vertex: $(-2, -3)$
x-intercepts: $(-2 + \sqrt{3}, 0), (-2 - \sqrt{3}, 0)$
y-intercept: $(0, 1)$
Domain: $(-\infty, \infty)$
Range: $[-3, \infty)$